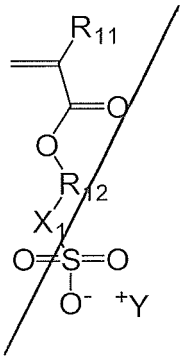
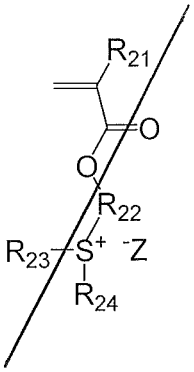
WHAT IS CLAIMED IS:

~~1. A hydrophilic photoacid generator prepared by copolymerization of a first (meth)acrylic acid ester having a structure represented by the following Formula 1 or 2, with a polymerizable monomer selected from the group consisting of a second (meth)acrylic acid ester, an olefin-based compound and a mixture thereof, each of which contains a functional group selected from the group consisting of a hydroxyl group, a carboxyl group, a lactone group, a nitrile group and a halogen group:~~

~~[Formula 1]~~



~~[Formula 2]~~



~~wherein R_{11} and R_{21} are each~~

~~from the group consisting of a hydr~~

~~alkyl group and a C1 to C4 alkoxy gro~~

~~R_{12} and R_{22} are each independe~~

~~group consisting of a C1 to C20 alk~~

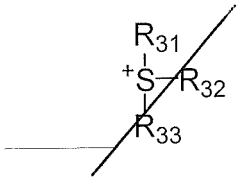
~~C20 alkenediyl group, a C1 to C20 he~~

~~C2 to C20 heteroalkenediyl gr~~

~~cycloalkanediyl group, a C3 to C30 c~~

~~C2 to C30 heterocycloalkanediyl gr~~

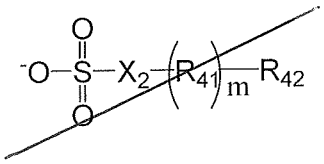
~~heterocycloalkenediyl group;~~



wherein R_{31}, R_{32} and R_{33} are each independently selected from the group consisting of a C1 to C20 alkyl group, a C2 to C20 alkenyl group, a C3 to C30 cycloalkyl group, a C3 to C30 cycloalkenyl group and a C6 to C30 aryl group, wherein one or more hydrogen atoms of R_{31}, R_{32} and R_{33} are each independently substituted by any substituent selected from the group consisting of a halogen group, a hydroxyl group, a carboxyl group, a thio group, a C1 to C10 alkyl group, a C1 to C10 alkoxy group, a C6 to C18 aryl group, a (C1 to C10 alkyl)thio group, a C6 to C18 aryloxy group, a (meth)acryloyloxy group, a (C1 to C10 alkyl)carbonyloxy group and a combination thereof; and

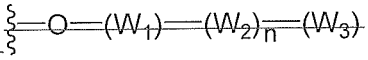
Z^- is a compound represented by the following Formula 4:

[Formula 4]



wherein R_{41} is selected from the group consisting of a C1 to C20 alkanediyl group, a C2 to C20 alkenediyl group, a C1 to C20 heteroalkanediyl group, a C2 to C20 heteroalkenediyl group, a C3 to C30 cycloalkanediyl group, a C3 to C30 cycloalkenediyl group, a C2 to C30

heterocycloalkanediyl group and a C3 to C30 heterocycloalkenediyl group;

R_{42} is selected from the group consisting of a hydrogen atom, a halogen atom, a C1 to C20 alkyl group, a C2 to C20 alkenyl group, a C1 to C20 alkoxy group, a C1 to C20 alkoxyalkyl group, a C1 to C20 haloalkyl group, a C1 to C20 haloalkoxy group, a C1 to C20 alkylthio group, a C3 to C30 cycloalkyl group, a C3 to C30 cycloalkenyl group, a C6 to C30 aryl group, a C7 to C30 aralkyl group, a C5 to C30 heterocyclic group and  (wherein W_1 is -(C=O)- or $-(SO_2)-$; W_2 is a C1 to C10 alkanediyl group or a C1 to C10 heteroalkanediyl group; and W_3 is selected from the group consisting of a hydrogen atom, a halogen group, a C1 to C10 alkyl group, a C2 to C20 alkenyl group, a C1 to C10 alkoxy group, a C1 to C10 haloalkyl group, a (C1 to C10 alkyl)thio group, a C3 to C30 cycloalkyl group, a C6 to C30 aryl group, a (C6 to C30 aryl)oxy group, a (C6 to C30 aryl)thio group, a C5 to C30 heterocyclic group and a combination thereof);

X_2 is a C1 to C20 haloalkanediyl group in which at least one hydrogen atom is substituted by a halogen group; and

m and n are each independently 0 or 1.

~~2. The hydrophilic photoacid generator according to claim 1, wherein, in Formula 1, R_{11} is a hydrogen atom or a C1 to C4 alkyl group;~~

~~R_{12} is selected from the group consisting of a C1 to C10 alkanediyl group, C2 to C10 alkenediyl group, a C1 to C10 heteroalkanediyl group, a C2 to C10 heteroalkenediyl group, a C3 to C18 cycloalkanediyl group, a C3 to C18 cycloalkenediyl group, a C2 to C18 heterocycloalkanediyl group and a C3 to C18 heterocycloalkenediyl; and~~

~~X_1 is selected from the group consisting of: a C1 to C10 alkanediyl group containing a functional group selected from the group consisting of a fluoro group, a perfluoroalkyl group and a cyano group; a C6 to C18 arylene group; and a heteroarylene group.~~

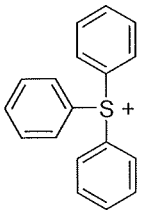
~~3. The hydrophilic photoacid generator according to claim 1, wherein, in Formula 1, X_1 is selected from the group consisting of a difluoromethylene group, a cyanomethylene group and a benzenediyl group.~~

~~4. The hydrophilic photoacid generator according to claim 1, wherein, in Formula 1, Y^+ is the compound represented by Formula 3 above,~~

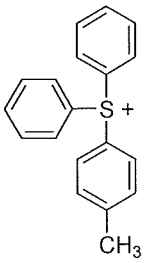
~~wherein, in Formula 3, R_{31}, R_{32} and R_{33} are each independently selected from the group consisting of a C1 to~~

~~C10 alkyl group, a C1 to C10 alkenyl group, a C3 to C14 monocyclic cycloalkyl group, a C8 to C18 bicyclic cycloalkyl group, a C10 to C30 tricyclic cycloalkyl group, a C10 to C30 tetracyclic cycloalkyl group, a C3 to C18 cycloalkenyl group and a C6 to C18 aryl group, wherein one or more hydrogen atoms of R_{31}, R_{32} and R_{33} are each independently substituted by any substituent selected from the group consisting of a halogen group, a hydroxyl group, a carboxyl group, a thio group, a C1 to C10 alkyl group, a C1 to C10 alkoxy group, a C6 to C18 aryl group, a (C1 to C10 alkyl)thio group, a C6 to C18 aryloxy group, a (meth)acryloyloxy group, a (C1 to C10 alkyl)carbonyloxy group and a combination thereof.~~

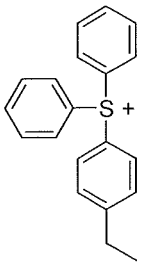
~~5. The hydrophilic photoacid generator according to claim 1, wherein, in Formula 1, Y^+ has a structure represented by one of the following Formulae 6a to 6r:~~



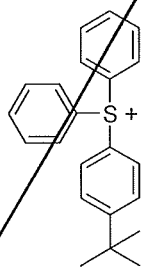
(6a)



(6b)



(6c)



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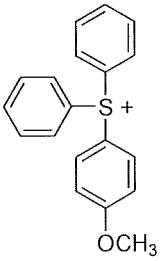
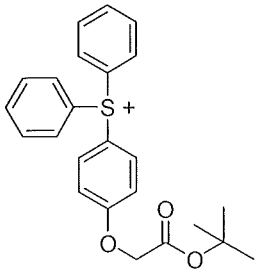
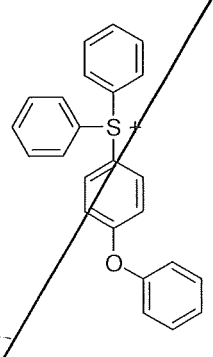


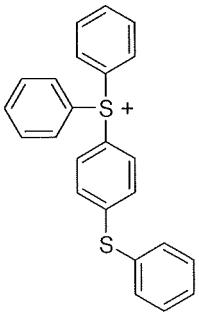
(6e)



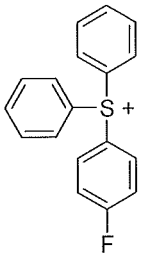
(6f)



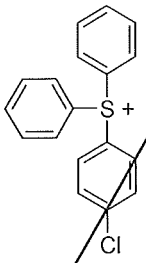
(6g)



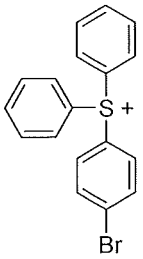
(6h)



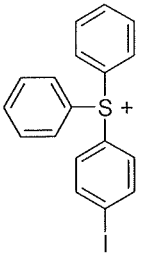
(6i)



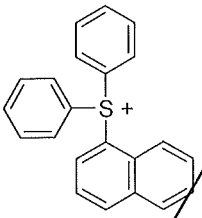
(6j)



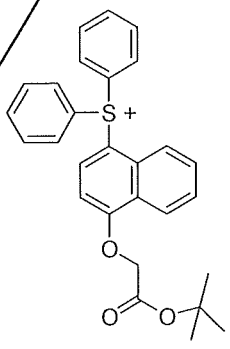
(6k)



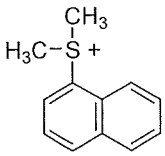
(6l)



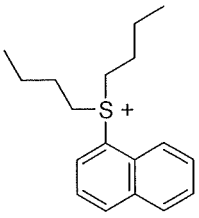
(6m)



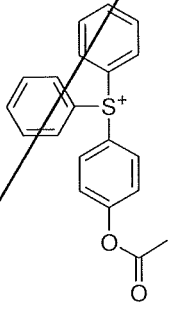
(6n)



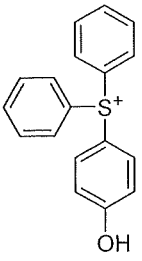
(6o)



(6p)



(6q)



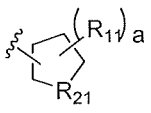
(6r)

~~6. The hydrophilic photoacid generator according to claim 1, wherein, in Formula 2, R_{21} is a hydrogen atom or a C1 to C4 alkyl group;~~

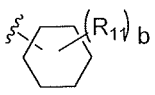
~~R_{22} is selected from the group consisting of a C1 to C10 alkanediyl group, C2 to C10 alkenediyl group, a C1 to C10 heteroalkanediyl group, a C2 to C10 heteroalkenediyl group, a C3 to C18 cycloalkanediyl group, a C3 to C18 cycloalkenediyl group, a C2 to C18 heterocycloalkanediyl group and a C3 to C18 heterocycloalkenediyl; and~~

~~R_{23} and R_{24} are each independently selected from the group consisting of a C1 to C10 alkyl group, a C1 to C10 alkenyl group, a C3 to C14 monocyclic cycloalkyl group, a C8 to C18 bicyclic cycloalkyl group, a C10 to C30 tricyclic cycloalkyl group, a C10 to C30 tetracyclic cycloalkyl group, a C3 to C18 cycloalkenyl group, a C6 to 18 aryl group and a C5 to C18 heterocyclic group.~~

~~7. The hydrophilic photoacid generator according to claim 1, wherein, in Formula 2, R_{23} and R_{24} are each independently selected from the group consisting of a C1 to C4 alkyl group, a C2 to C4 alkenyl group, and compounds represented by Formulae 5a to 5u:~~



(5a)



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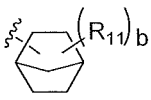
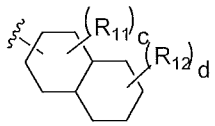


(5c)



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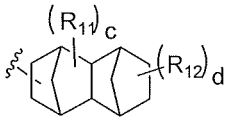

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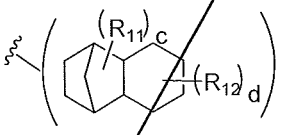

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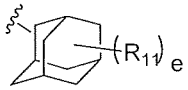
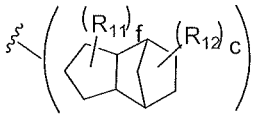
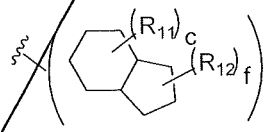


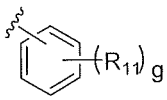
(5g)



(5h)



(5i)



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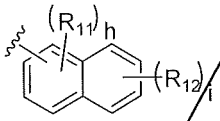
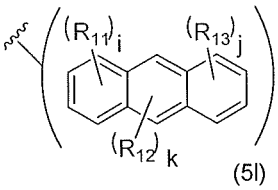
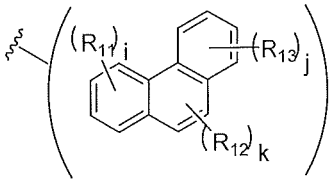


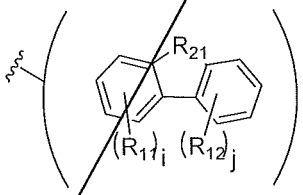
(5k)



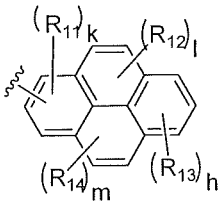
(5l)



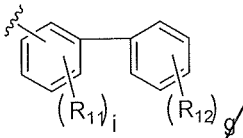
(5m)



(5n)



(5o)



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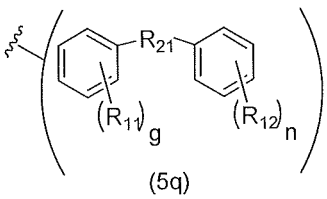
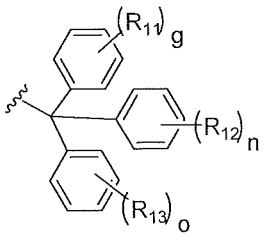


(5q)



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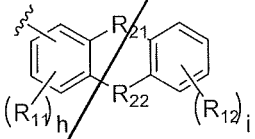

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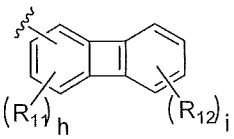
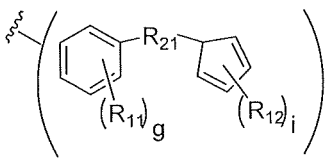


(5t)



(5u)

wherein, in Formulae 5a to 5u, R_{11}, R_{12}, R_{13} and R_{14} are each independently selected from the group consisting of a halogen atom, an alkyl group, a perfluoroalkyl group, a perfluoroalkoxy group, a hydroxyl group, a carboxyl group, a cyano group, a nitrile group, a nitro group, an amino group, a thio group, an alkylthio group, an aldehyde group, a cycloalkyl group, a heterocyclic group, an allyl group, an aryl group, OR_a, COR_a and $COOR_a$, wherein R_a is an alkyl group or an aryl group;

R_{21} and R_{22} are each independently selected from the group consisting of CR_bR_c, O, CO, S and NR_d, wherein R_b to R_d are each independently selected from the group consisting of a hydrogen atom, an alkyl group and an aryl group; and

a and f are an integer of 0 to 7; b is an integer of 0 to 11; c and d are each independently an integer of 0 to 9; e is an integer of 0 to 15; g, n, q, r and s are each independently an integer of 0 to 5; h, i and j are each independently an integer of 0 to 3; k, l and m are each independently an integer of 0 to 2; and o and p are an integer of 0 to 4, with the proviso of $0 \leq c+d \leq 17$, $0 \leq c+f \leq 15$, $0 \leq i+j+k \leq 9$, $0 \leq h+i \leq 7$, $0 \leq o+p \leq 9$, and $0 \leq h+o \leq 8$.

8. The hydrophilic photoacid generator according to claim 1, wherein, in Formula 2, Z^- is the compound represented by Formula 4,

~~wherein, in Formula 4, R_{41} is~~

~~consisting of a C1 to C10 alkanedi~~

~~alkenediyl group, a C1 to C10 heter~~

~~to C10 heteroalkenediyl group, a~~

~~cycloalkanediyl group, a C8 to C18 b~~

~~group, a C10 to C30 tricyclic cyclo~~

~~to C30 tetracyclic cycloalkanediyl~~

~~cycloalkenediyl group, a C2 to C1~~

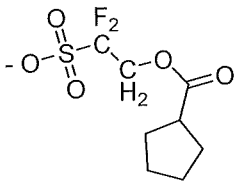
~~group and a C3 to C18 heterocycloalke~~

~~R_{42} is selected from the g~~

~~a (C6 to C18 aryl)oxy group, a (C6 to C18 aryl)thio group, a C5 to C18 heterocyclic group and a combination thereof); and~~

~~X_2 is a C1 to C10 fluoroalkanediyl group in which at least one hydrogen atom is substituted by a fluoro group.~~

~~9. The hydrophilic photoacid generator according to claim 1, wherein, in Formula 2, Z^- is selected from the group consisting of functional groups represented by Formulae 7a to 7n and 8a to 8x:~~



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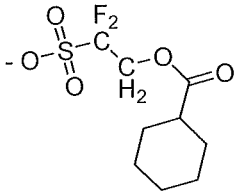

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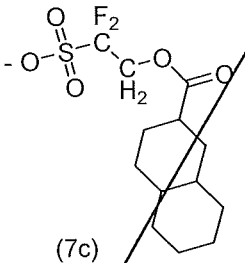

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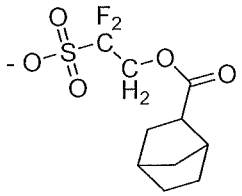

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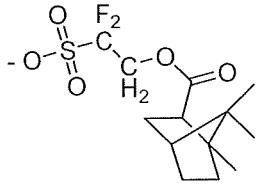

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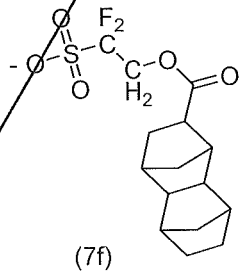

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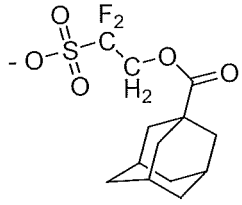

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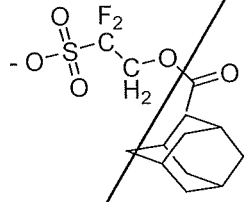

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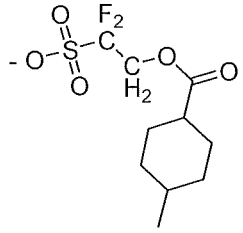

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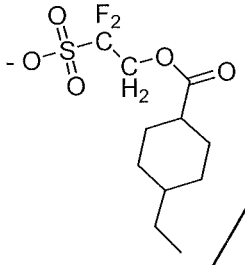

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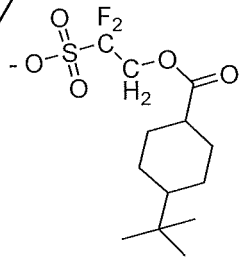

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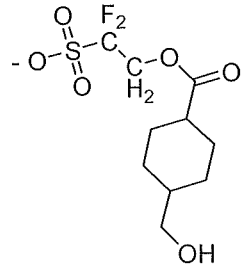

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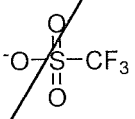

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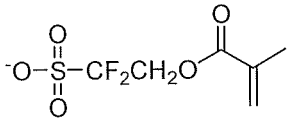

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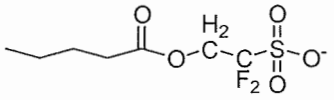

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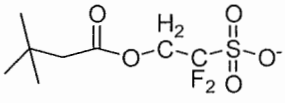

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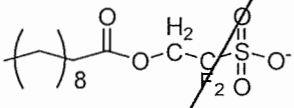

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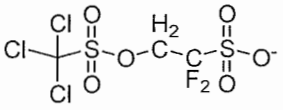

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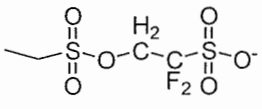

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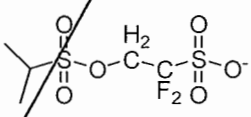

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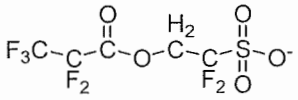

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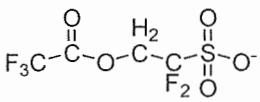

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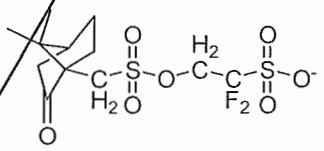

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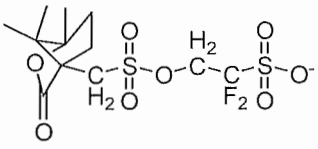

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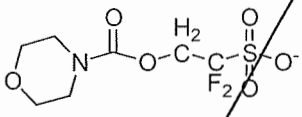

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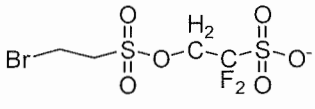

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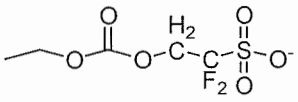

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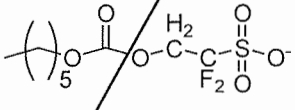

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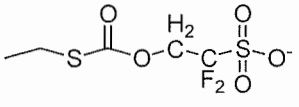

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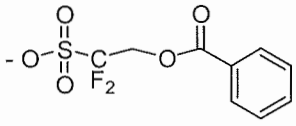

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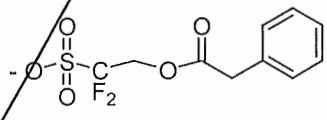

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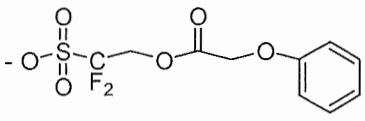

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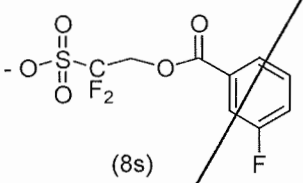

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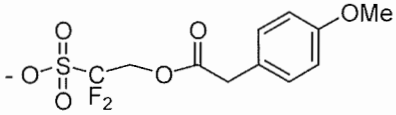

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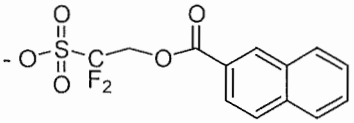

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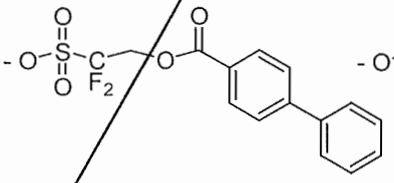

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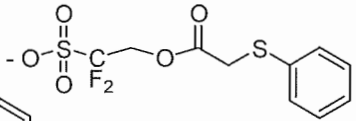

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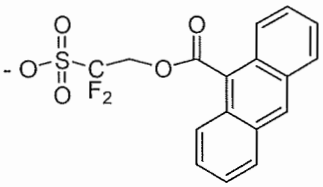
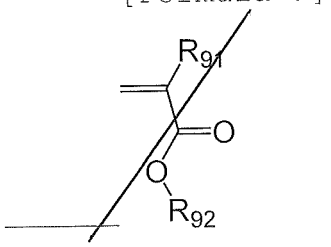


(8x)

~~10. The hydrophilic photoacid generator according to claim 1, wherein the second (meth)acrylic acid ester is a copolymer represented by the following Formula 9:~~

~~[Formula 9]~~



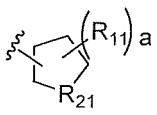
~~wherein R_{91} is selected from the group consisting of a hydrogen atom, a C1 to C4 alkyl group, and a C1 to C4 alkoxy group; and~~

~~R_{92} is a hydrogen atom or is selected from the group consisting of a C1 to C20 alkyl group, a C2 to C20 alkenyl group, a C3 to C30 cycloalkyl group, a C3 to C30 cycloalkenyl group, a C6 to C30 aryl group, a C2 to C30 heterocyclic group and a combination thereof, each of which contains a functional group selected from the group consisting of a hydroxyl group, a carboxyl group, a lactone group, a nitrile group and a halogen group.~~

~~11. The hydrophilic photoacid generator according to claim 10, wherein R_{92} is a hydrogen atom, or is selected from the group consisting of a C1 to C10 alkyl group, a C2 to C10 alkenyl group, a C3 to C14 monocyclic cycloalkyl group, a C8 to C18 bicyclic cycloalkyl group, a C10 to C30~~

~~tricyclic cycloalkyl group, a C10 to C30 tetracyclic cycloalkyl group, a C3 to C18 cycloalkenyl group, a C6 to C18 aryl group, a C7 to C18 aralkyl group and a C2 to C18 heterocyclic group, each of which contains a functional group selected from the group consisting of a hydroxyl group, a carboxyl group, a lactone group, a nitrile group and a halogen group.~~

~~12. The hydrophilic photoacid generator according to claim 10, wherein, in Formula 9, R_{92} is selected from the group consisting of a hydroxymethyl group, a hydroxyethyl group, a hydroxypropyl group, and compounds represented by Formulae 10-1 to 10-30:~~



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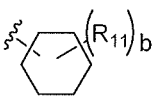

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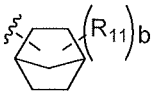

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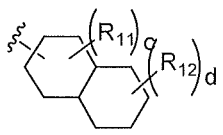

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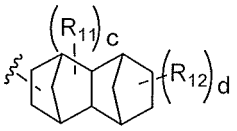

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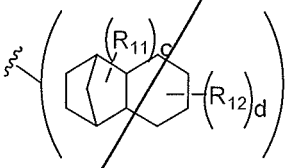

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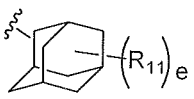

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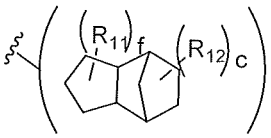

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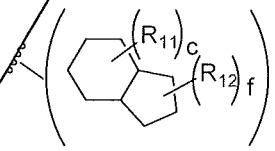

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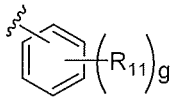

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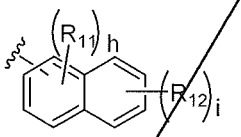

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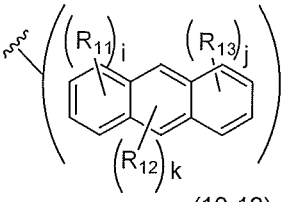

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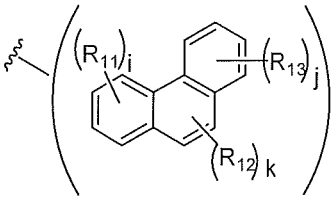

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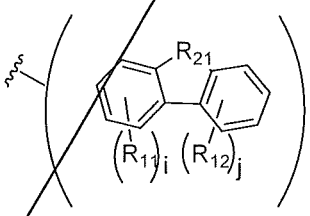

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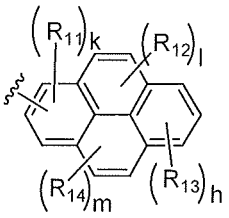

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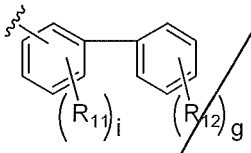

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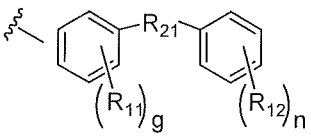

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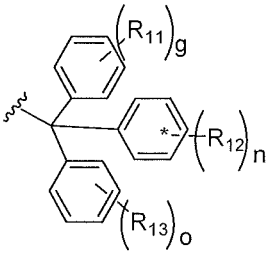

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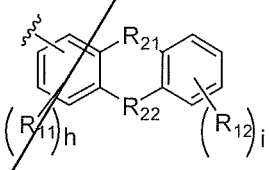

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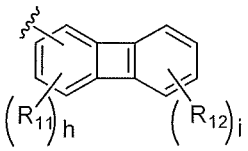
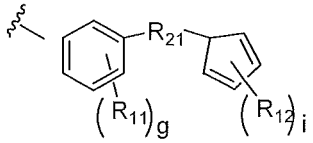


(10-20)



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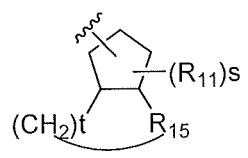

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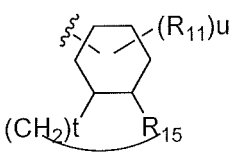
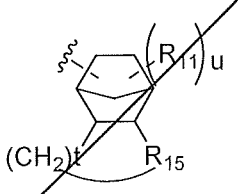


(10-23)



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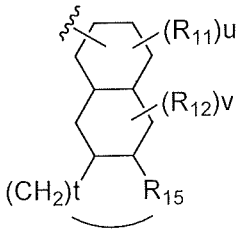

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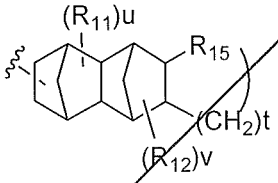

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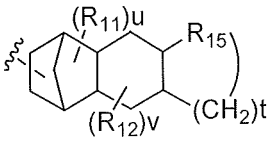
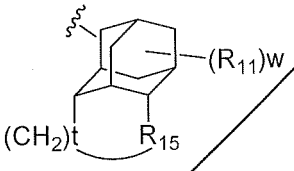
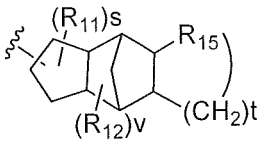


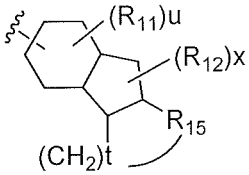
(10-27)



(10-28)



(10-29)



(10-30)

~~wherein, in Formulae 10-1 to 10-30, R_{11}, R_{12}, R_{13}, and R_{14} are each independently a hydroxyl group or a carboxyl group;~~

~~R_{15} is a C1 to C3 heteroalkanediyl group containing a carbonyl group which is bonded to a neighboring group to form a lactone group;~~

~~R_{21} and R_{22} are each independently selected from the group consisting of CR_aR_b, O, CO, S and NR_e, wherein R_a to R_e are each independently selected from the group consisting of a hydrogen atom, a C1 to C5 alkyl group and a C6 to C18 aryl group; and~~

~~a and f are an integer of 0 to~~

~~to 11; c and d are each independentl~~

~~e is an integer of 0 to 15; g, n~~

~~independently an integer of 0 to 5~~

~~independently an integer of 0 to 3;~~

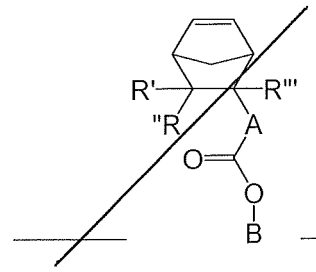
~~independently an integer of 0 to 2~~

~~independently an integer of 0 to 4;~~

~~2; u is an integer of 0 to 7; and~~

~~13, with the proviso of $0 \leq c+d \leq 17$,~~

$0 \leq h+i \leq 7$, $0 \leq e+n \leq 9$, and $0 \leq h+e \leq 8$



wherein R′, R′′ and R′′′ are each independently a hydrogen atom or a C1 to C8 alkyl group;

A is selected from the group consisting of a C1 to C20 alkanediyl group, a C2 to C20 alkenediyl group, a C3 to C30 cycloalkanediyl group, a C3 to C30 cycloalkenediyl group, a C1 to C20 heteroalkanediyl group, a C2 to C20 heteroalkenediyl group, a C2 to C30 heterocyclic group and a combination thereof, each of which contains a functional group selected from the group consisting of a hydroxyl group, a carboxyl group, a lactone group, a nitro group and a halogen group; and

B is selected from the group consisting of a C1 to C20 alkyl group, a C1 to C20 alkenyl group, a C3 to C30 cycloalkyl group, a C3 to C30 cycloalkenyl group, a C6 to C30 aryl group, a C1 to C20 heteroalkyl group, a C2 to C30 heterocyclic group and a combination thereof.

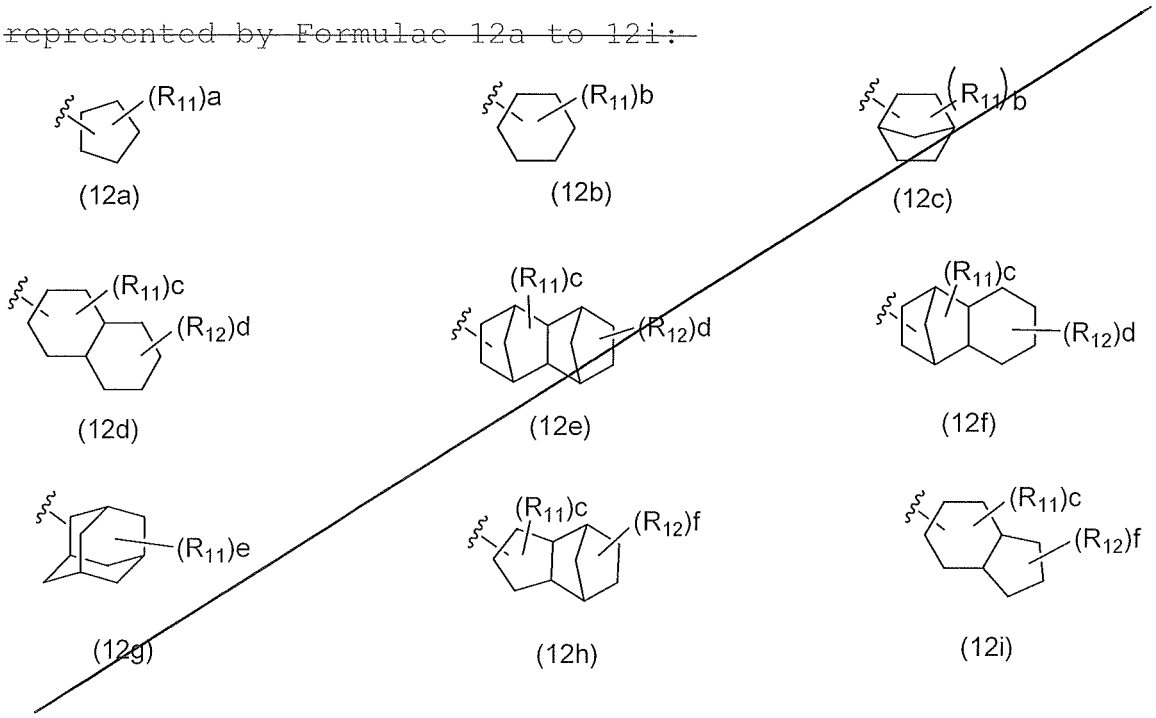
15. The hydrophilic photoacid generator according to claim 14, wherein, in Formula 11, A is selected from the group consisting of a C1 to C10 alkanediyl group, a C2 to C10 alkenediyl group, a C3 to C14 monocyclic cycloalkanediyl group, a C8 to C18 bicyclic cycloalkanediyl group, a C10 to

~~C30 tricyclic cycloalkanediyl group, a C10 to C30 tetracyclic cycloalkanediyl group, a C6 to C18 cycloalkenediyl group, a C1 to C10 heteroalkanediyl group, a C2 to C10 heteroalkenediyl group, a C5 to C18 heterocyclic group and a combination thereof, each of which contains a hydroxyl group.~~

~~16. The hydrophilic photoacid generator according to claim 14, wherein, in Formula 11, A is selected from the group consisting of -OCH(OH)-, -COCH(OH)-, -COCH$_2$CH(OH)-, -CH(OH)-, -CH(OH)CH$_2$-, -CH(OH)-O-, -CH(OH)-O-CH$_2$-, -CH(OH)CH$_2$-O-, -CH(OH)-O-CH$_2$CH$_2$-, -CH(OH)CH$_2$-O-CH$_2$-, -CH(OH)CH$_2$CH$_2$-O-, -CH(OH)-O-CH$_2$CH$_2$CH$_2$-, -CH(OH)CH$_2$-O-CH$_2$CH$_2$-, -CH(OH)CH$_2$CH$_2$-O-CH$_2$-, -C(OH)(CH$_3$)-, -C(CH$_3$)$_2$CH(OH)-, -CH(CH$_3$)CH(OH)-, -C(OH)(CH$_2$CH$_3$)-, -C(OH)(OCH$_3$)-, -C(CF$_3$)(OCH$_2$(OH))-, -CH(OH)-S-, -CH(OH)-S-CH$_2$-, -CH(OH)CH$_2$-S-, -CH(OH)-S-CH$_2$CH$_2$-, -CH(OH)CH$_2$-S-CH$_2$-, -CH(OH)CH$_2$CH$_2$-S-, -CH(OH)-S-CH$_2$CH$_2$CH$_2$-, -CH(OH)CH$_2$-S-CH$_2$CH$_2$-, -CH(OH)CH$_2$CH$_2$-S-CH$_2$-, -C(OH)(CH$_2$)CH-, -CH(CH$_2$CH$_2$(OH))-, -CH(OH)CO-, -CH(OH)CH$_2$CO-, -CH(CH$_3$)CH(OH)CO-, -C(OH)(CH$_3$)-, -C(OH)=CH-, -CH(OH)CH=CH-, -C(OH)=CHCH$_2$-, -C(OH)=CH-O-, -C(OH)=CH-S- and -C(OH)=CHCO-.~~

~~17. The hydrophilic photoacid generator according to claim 14, wherein, in Formula 11, B is preferably selected from the group consisting of a methyl group, an ethyl group,~~

~~a t-butyl group, an isopropyl group, and compounds represented by Formulae 12a to 12i:~~



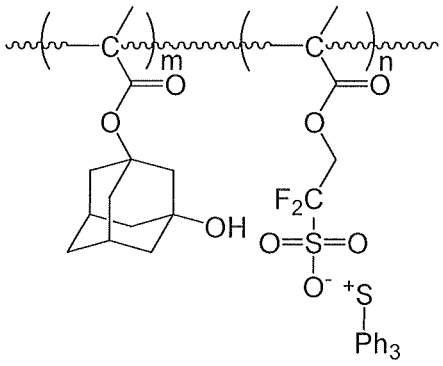
~~wherein, in Formulae 12a to 12i, R_{11} and R_{12} are each independently selected from the group consisting of hydrogen, a C1 to C10 alkyl group and a C3 to C10 cycloalkyl group; and~~

~~a, c and d are each independently an integer of 0 to 9; b is an integer of 0 to 11; e is an integer of 0 to 15; and f is an integer of 0 to 7, with the proviso of $0 \leq c+d \leq 17$ and $0 \leq e+f \leq 15$.~~

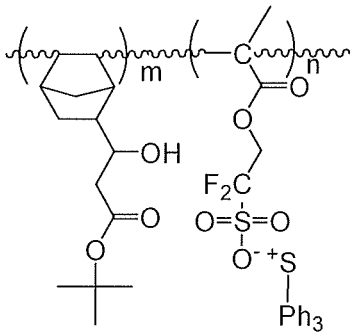
~~18. The hydrophilic photoacid generator according to claim 1, wherein the first (meth)acrylic acid ester and the polymerizable monomer are polymerized at a weight ratio of 1:99 to 99:1.~~

~~19~~1. A resist composition comprising a hydrophilic photoacid generator, a base copolymer and a solvent, ~~The hydrophilic photoacid generator according to claim 1,~~ wherein the photoacid generator is selected from the group consisting of compounds represented by Formulae 15 to 23:

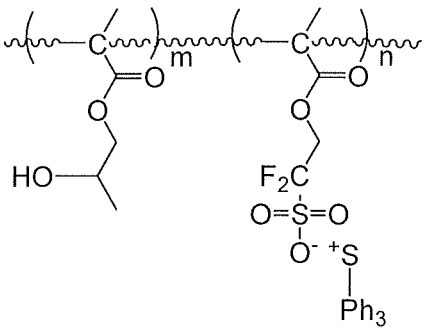
[Formula 15]



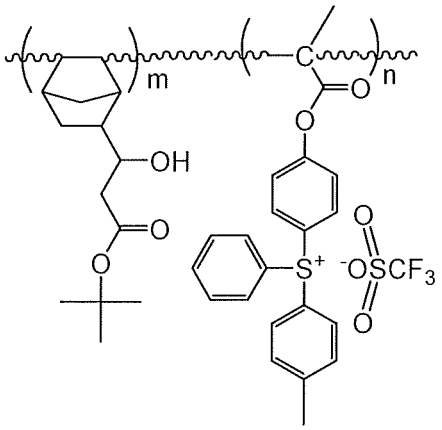
[Formula 16]



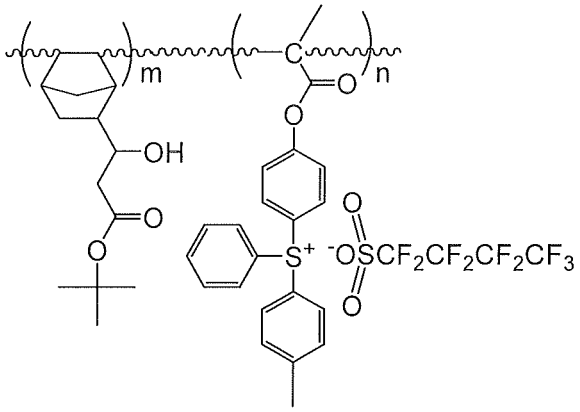
[Formula 17]



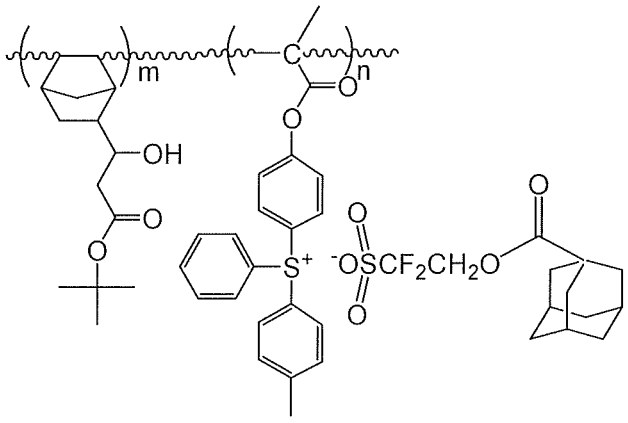
[Formula 18]



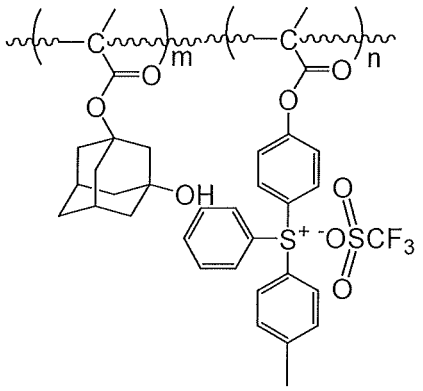
[Formula 19]



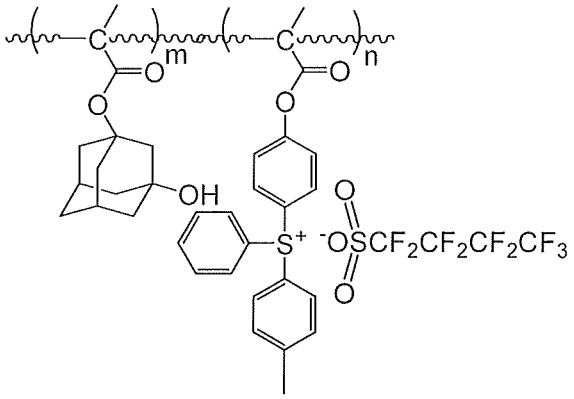
[Formula 20]



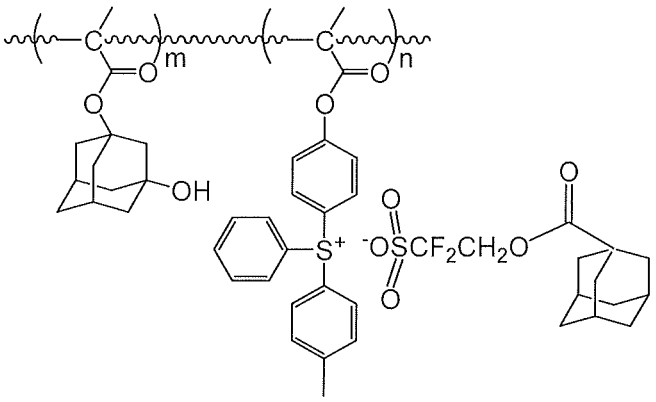
[Formula 21]



[Formula 22]



[Formula 23]



wherein, in Formulae 15 to 23, ph represents a phenyl group, and m and n are numbers of repeat units present in the main chain and satisfy m+n=1, $o<m/(m+n)\leq 0.99$ and $0<n/(m+n)\leq 0.99$.

~~202~~. The resist composition ~~hydrophilic photoacid generator~~ according to claim 1, wherein the hydrophilic photoacid generator has a weight average molecular weight in terms of polystyrene measured by gel permeation chromatography (GPC) of 1,000 to 500,000 g/mol.

~~213~~. The resist composition ~~hydrophilic photoacid generator~~ according to claim 1, wherein the hydrophilic photoacid generator has a ratio of weight average molecular weight to number average molecular weight of 1 to 5.

~~22. A resist composition comprising the hydrophilic photoacid generator according to any one of claims 1 to 21.~~

~~234~~. The resist composition according to claim ~~221~~, wherein the hydrophilic photoacid generator is present in an amount of 0.3 to 10 parts by weight, with respect to 100 parts by weight of a solid content of the resist composition.